Putting New Information Technology to Work

The continuing investment in electronic data can bring impressive advances in terms of efficiency, data security, and quick access to information.

Our public health system is both a conduit and a storehouse for information about health: the frequency of disease, environmental risks, data generated by community assessments, and availability of clinicians and other service providers.

The exchange of this information occurs both between citizens and public health agencies and between the state Department of Health and local health jurisdictions. And although the government agencies are responsible for data storage and management, the data come from both public and private sources—people, labs, hospitals, clinics, and insurance companies.

As with all of business and government, public health agencies are increasingly affected by the move to electronic sharing and storing of data. Public health staff need timely data to do their jobs effectively—particularly when quick responses are needed. The continuing investment in electronic data can bring impressive advances in terms of efficiency, data security, and quick access to information. It also improves customer service by making certain types of information immediately accessible and speeding permitting processes.

State and local collaboration is essential in order to realize these benefits. Developing duplicative, separate systems would be wasteful and far too costly.

The work of the PHIP Public Health Information Technology Committee will improve the security, speed, and efficiency of information exchange. It carries forward the collaboration that linked all local jurisdictions through an electronic communications network. Agencies that once turned to the Department of Health to respond to vaccine shortages can now negotiate directly with local agencies that have vaccine to spare. Locating experts, analyzing health data, communicating changes in public policy, and negotiating state-local contracts have all been enhanced by this network.

In the next phase of this effort, public health staff are working to achieve significant improvements in use of information technology, particularly in managing disease reporting and information regarding environmental problems and threats. The next two pages present three examples of work that is underway.

Vital Statistics for Public Health (VISTA/PH)

Assessment—the work of collecting, analyzing, interpreting, and sharing information about health status—is one of the core functions of public health. Through assessment, public health officials and their partners identify their communities' important health issues in order to set priorities for interventions and public policy. To do this work, they need timely information that is specific to their communities as well as the computer skills to analyze it.

For this purpose, Public Health—Seattle and King County developed VISTA/PH, a software package for analyzing population-based health data. A key feature of VISTA/PH is that it provides a mechanism to examine particular geographic areas—groupings of counties, Census tracts, zip codes—in terms of several indicators of health and well being: births, deaths, infant mortality, abortions, hospitalizations, sexually transmitted diseases, and other reportable diseases. VISTA also provides ready access to information such as population characteristics (age, race), fertility and birth rates, and life expectancy. (Appendix 5 shows Washington State data available on VISTA.)

Local public health jurisdictions, their contractors, and universities have all used VISTA. Since 1996, the Department of Health has supported distribution of the system to local public health agencies across the state with purchases of hardware and software and training in data applications, basic epidemiology, and statistical analysis. Current efforts focus on adapting this software for secure network use as well as creating content for general web-based applications.

The Health Alert Network (HAN)

With its Health Alert Network (HAN), the Washington State Department of Health joins a national infrastructure that captures, analyzes, and processes disease surveillance information in a systematic way. Recent federal legislation and funding underscored the importance of being prepared for possible bioterrorist attacks and other large-scale health emergencies. HAN will provide a secure framework for local public health jurisdictions to share information with each other to locate the sources of disease outbreaks.

This work is essential because until recently, Washington's public health system faced numerous barriers to the rapid, accurate, and secure reporting of information. The state's public health agencies use different paper-based systems for conducting case investigations and completing reports. Lack of standard tools and definitions does not allow rapid response to emergencies or recognition of emerging issues.

HAN will provide the state's public health workers with the tools they need to react appropriately when faced with a major health threat. It will provide computer hardware, training, and security mechanisms needed to ensure the confidentiality of information and protect it from hackers and terrorists.

A key part of HAN is creation of a secure mechanism to transmit disease data throughout Washington's public health system through a "virtual private network" that will go online first in the state's metropolitan counties and statewide by August 2004.

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The Public Health Issues Management System (PHIMS)

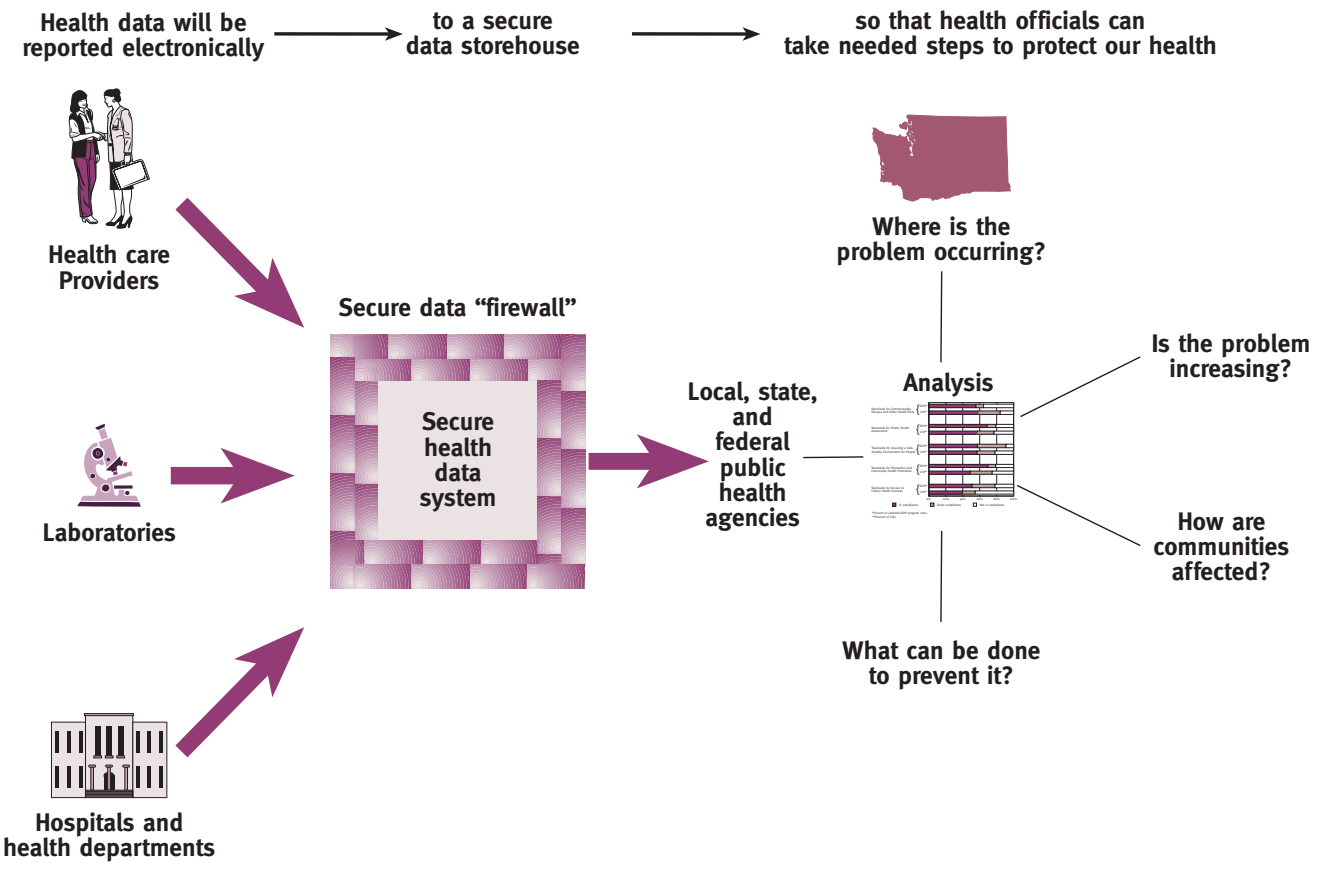
PHIMS is the first application to use HAN. Developed by the Thurston County Public Health and Social Services Department, PHIMS is a user-friendly system that public health staff can employ to investigate, manage, and report information about communicable diseases and other areas of concern. It also draws information from a wealth of different databases into analysis. (A list of "notifiable conditions" for Washington appears in Appendix 5.)

Once in PHIMS, staff can create new records by selecting templates from a list ranging from *animal bites* to *yersinia*.

Workers can quickly view and edit existing reports and charts, including clinical and lab data and detailed source and demographic information. PHIMS provides a secure mechanism to communicate all of these data electronically to DOH.

State public health officials are eager to expand PHIMS to all local public health jurisdictions that wish to use it through a secure, web-based system. PHIMS will be piloted in three local health jurisdictions by July 2001. The new system will be built to be consistent with all national and DOH information technology standards.

Standardized Electronic Health Data Reporting Will Be a Valuable Tool for Health Protection



Next Steps

For Putting New Information Technology to Work

1. Create common data standards and policies.
   - Develop and disseminate common data standards, compatible with national models, including federal standards and requirements.
   - Recommend policies on hardware, software, data sharing, confidentiality, and security.
2. Move to technology-based information exchange wherever possible, and make effective use of secure data transmission through special networks and expanded web-based technology where appropriate.
3. Use technology innovations and available resources to improve service to individuals and overall system efficiency in all local health jurisdictions and at DOH.
4. Seek continued support from federal entities for local and regional technology coordination.
5. Continue an oversight committee of state and local officials and partners to ensure that system-wide, information technology decisions and investments are made in a coordinated, timely manner.
   - Address emerging technologies such as Geographic Positioning Systems (GPS) and Geographic Information Systems (GIS).
   - Set priorities on issues that must receive system-wide attention.
   - Seek cost efficiencies in buying and supporting systems.